International Civil Aviation Organization
North American, Central American and Caribbean Office

WORKING PAPER

AIDC/NAM/ICD/5 — WP/10
29/06/22

Fifth NAM/CAR Air Traffic Services Inter-facility Data Communication (AIDC) and North American Interface Control Document (NAM/IDC) Implementation Follow-up Meeting (AIDC/NAM/ICD/5)

Hybrid, from 28 to 30 June 2022

Agenda Item 6: **Activities towards regional plans and their support to the development of the e-ANP Volume III**

DASHBOARD OF AIR NAVIGATION SERVICES AND SUPPORT FOR THE DEVELOPMENT OF THE ELECTRONIC AIR NAVIGATION PLAN (e-ANP)

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
During this year, the NACC and SAM Regional Offices have been working on updating the Electronic Air Navigation Plan (e-ANP), Volume III, as well as updating the information of the e-ANP, volumes I and II. Likewise, work is being done on the ICAO analysis platform for the North American and Caribbean (NAM/CAR) regions, which is still under construction.	
Action:	Suggested actions are presented in Section 3.
Strategic Objectives:	• Air Navigation Capacity and Efficiency
References:	• Nineteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/19). Online, 27 – 29 October 2021. https://bit.ly/3HZIiaF

1. Introduction

1.1 The ICAO North American, Central American and Caribbean (NACC) Regional Office is accredited to 22 Contracting States and 19 Territories and covers 29 NAM Flight Information Regions (FIRs), 15 FIRs and 15 CARs. The NACC Regional Office promotes the implementation of ICAO Standards and Recommended Practices (SARPs) by providing assistance to States and conducting oversight activities to validate the effective application of ICAO international standards.

1.2 The Dashboards of the ICAO NACC Regional Office are intended to inform, monitor and follow up on the implementation of different aviation matters: Safety, Aviation Security, Facilitation, Air Transport, Air Navigation, and Environmental Protection.

1.3 These Dashboards are intended to serve the States (DG and Technical Team) and the Regional Implementation Groups to support their monitoring of implementation progress and serve for the Annual Regional Safety and Air Navigation Reports and others.

1.4 The Dashboards are being implemented under the Platform of the Integrated Safety Trend Analysis and Reporting System (iSTARS) 4.0, for which States must request access through username and password through the ICAO Secure Portal.

1.5 The Dashboard will allow the implementation of a measurement system that allows the State to visualize the current degree of implementation, the expectations and/or the implementation goals and thus support these tasks that require a continuous collection of data and measurements to establish a data report that is representative.

1.6 Implementation status is displayed through dynamic, interactive charts that are available on the Dashboard. The system will generate ad-hoc reports illustrating the data collected in the Dashboard and each State will have access to the ICAO Secure Portal for use and reporting.

1.7 For the activities of the Air Traffic Services Inter-facility Data Communication (AIDC) Task Force, it is important to feed the implementation measurements of the AMHS and the AIDC PAC and NAM/ICD.

https://d-applications-a.icao.int/iStars/PortalDashboard/NACC
(Access temporarily restricted)

The temporal graphs of the DASHBOARD are found in **Appendix A** of this Study note.

1.8 In this sense, it is necessary to constantly update the ANS implementation information that is carried through the different Implementation Groups, part of the NACC/WG, constantly so that the latest information is always reflected in the system.

1.9 Similarly, the e-ANP development project in its third volume, led by both NACC and SAM Regional Offices, requires the work of updating the implementation information of the States.

2 Analysis

2.1 It is necessary that through the AIDC Task Group the procedure through which the implementation of the AIDC protocols will be implemented is defined. In this sense, it is proposed to measure the level of implementation in accordance with the messages implemented in the different operational phases.

No	Interface	State/ Organization	Adjacent State or	Bilateral Agreement or ICD	Status	Clase I	Clase II	Clase III	% Implementación
1	Belize-Merida	Belize	Mexico	NAM-ICD Version D	Implementing	0.00%	0.00%	0.00%	0.00%
2	Boston-Toronto	Canada	United States	NAM-ICD Version F	Operational	100.00%	100.00%	100.00%	100.00%
3	Cleveland-Montreal	Canada	United States	NAM-ICD Version F	Operational	100.00%	100.00%	100.00%	100.00%
4	Edmonton-Reykjavik	Canada	Iceland	NAT ICD	Operational	0.00%	0.00%	0.00%	0.00%
5	Edmonton-Salt Lake City	Canada	United States	NAM-ICD Version E	Operational	100.00%	100.00%	100.00%	100.00%
6	Edmonton-Seattle	Canada	United States	NAM-ICD Version E	Operational	100.00%	100.00%	100.00%	100.00%
7	Gander-New York	Canada	United States	NAT ICD	Operational	100.00%	100.00%	100.00%	100.00%

2.2 To support the development of e-ANP Volume III and the updating of Volumes I and II, it is proposed:

1. The update of the Table of INTER-FACILITY DATA COMMUNICATION (AIDC) approved with the SAM Region:

TABLE CNS II-5 – ATS INTERFACILITY DATA COMMUNICATION (AIDC)						
State/administration	**Location of ATC**	**Location of ATS adyacent**	**Automated Protocolo**	**Transmitions means**	**Target date of Implementation**	**Remarks**
Anguilla (United Kingdom)						Not implemented
Antigua and Barbuda						Not implemented
Aruba (Kingdom of Netherlands)						Not implemented
Bahamas						Not implemented
Barbados						Not implemented
Belize						

2. Updating the AERONAUTICAL MESSAGE SERVICE PLAN Table (AFTN/AMHS):

TABLE CNS II-1 – AERONAUTICAL MESSAGE SERVICE (AFTN/AMHS) PLAN								
State	**COM Center**	**Adjacent COM Center**	**Category**	**Requirement**				**Remarks**
				Type	**Signaling Speed**	**Protocol**	**Code**	
Anguilla	Anguilla-	Piarco						
Antigua and Barbuda	Antigua-	Piarco						
Aruba (Kingdom of Netherlands)	Aruba-	United States (Atlanta)						
Bahamas	Nassau-	United States (Atlanta)						
Barbados	Barbados-	Piarco						
Belize	Belize-	Centro America						
Bermuda (United Kingdom)	Bermuda-	United States (Atlanta)						
Cayman Is. (United Kingdom)	Cayman-	United States (Atlanta)						
Costa Rica	San Jose-	Centro America						
Cuba	Habana-	United States (Atlanta)						
Curaçao (Kingdom of Netherlands)	Curaçao-	United States (Atlanta)						
Dominica	Dominica-	United States (Atlanta)						
El Salvador	San Salvador-	Centro America						
French Antilles (Guadeloupe)	Pointe-a-Pitre-	Piarco						

3. **Appendix B** of this Working Paper contemplates both tables.

2.3 Updating this information is required in the short term and a living regional mechanism should be established to update the information whenever it is required.

3 Suggested actions

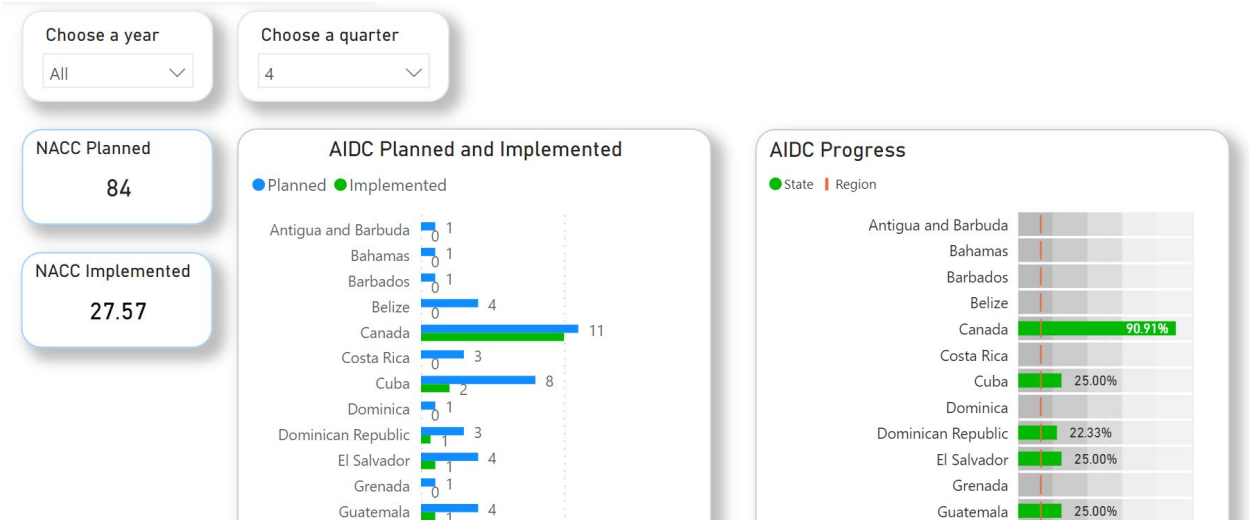
3.1 The Meeting is invited to complete the information required to complete these tasks:

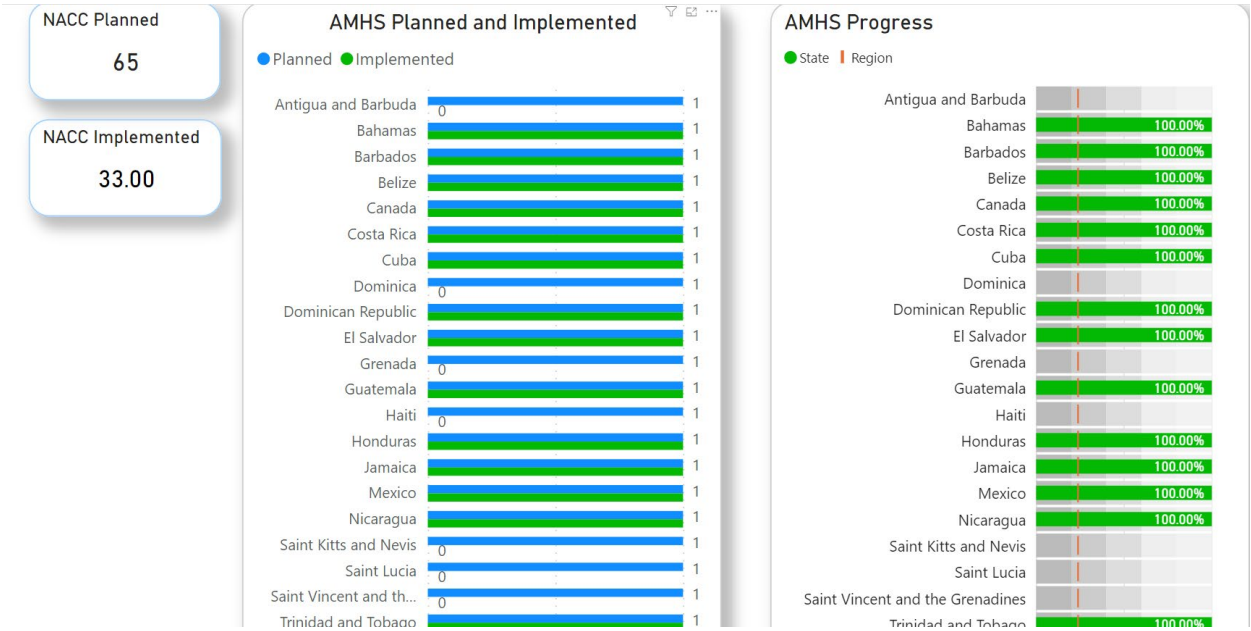
a) make a decision on how to measure the implementation of automated protocols;
b) Define a date for the States to update the information in the AIDC and AMHS tables.

c) establish the information updating mechanism; and
d) any other action that applies.

— — — — — — — — — — —

APPENDIX A


Choose a year
All
Choose a quarter
4
NACC Planned
84
NACC Implemented
27.57
AIDC Planned and Implemented
Planned
Implemented
Antigua and Barbuda 1 0
Bahamas 1 0
Barbados 1 0
Belize 4 0
Canada 11
Costa Rica 3 0
Cuba 8 2
Dominica 1 0
Dominican Republic 3 1
El Salvador 4 1
Grenada 1 0
Guatemala 4 1
AIDC Progress
State
Region
Antigua and Barbuda
Bahamas
Barbados
Belize
Canada 90.91%
Costa Rica
Cuba 25.00%
Dominica
Dominican Republic 22.33%
El Salvador 25.00%
Grenada
Guatemala 25.00%


NACC Planned
65
NACC Implemented
33.00
AMHS Planned and Implemented
Planned
Implemented
Antigua and Barbuda 0 1
Bahamas 1
Barbados 1
Belize 1
Canada 1
Costa Rica 1
Cuba 1
Dominica 0 1
Dominican Republic 1
El Salvador 1
Grenada 0 1
Guatemala 1
Haiti 0 1
Honduras 1
Jamaica 1
Mexico 1
Nicaragua 1
Saint Kitts and Nevis 0 1
Saint Lucia 0 1
Saint Vincent and th... 0 1
Trinidad and Tobago 1
AMHS Progress
State
Region
Antigua and Barbuda
Bahamas 100.00%
Barbados 100.00%
Belize 100.00%
Canada 100.00%
Costa Rica 100.00%
Cuba 100.00%
Dominica
Dominican Republic 100.00%
El Salvador 100.00%
Grenada
Guatemala 100.00%
Haiti
Honduras 100.00%
Jamaica 100.00%
Mexico 100.00%
Nicaragua 100.00%
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
Trinidad and Tobago 100.00%

— — — — — — — — — — —

APPENDIX B

TABLE CNS II-5 – ATS INTERFACILITY DATA COMMUNICATION (AIDC) PLAN

EXPLANATION OF THE TABLE

Column	
1	State/Administration – the name of the State/Administration.
2	Location of ATC system – the location where the automated protocol operates according to the ATC system's air traffic control procedures.
3	ATC Pair – corresponding ATC control centre
4	AUTOMATED PROTOCOLS: Indicates the automation protocol implemented between both Control Centres.
5	Transmission Means – the transmission means used for the AIDC messages exchanged between the i. Corresponding automated protocols pair, AMHS.
6	Target Date of Implementation – date of implementation of the AIDC end system in the form of ii. yyyy or xQyyyy (year or quarter year).
7	Remarks: Provides information on whether the protocol has been fully or partially implemented, integrates coordination, negotiation and transfer messages.

TABLE CNS II-5 – ATS INTERFACILITY DATA COMMUNICATION (AIDC)

State/administration	Location of ATC	Location of ATS adyacent	Automated Protocolo	Transmitions means	Target date of Implementation	Remarks
Anguilla (United Kingdom)						Not implemented
Antigua and Barbuda						Not implemented
Aruba (Kingdom of Netherlands)						Not implemented
Bahamas						Not implemented
Barbados						Not implemented
Belize						

TABLE CNS II-1 - AERONAUTICAL MESSAGE SERVICE (AFTN/AMHS) PLAN

EXPLANATION OF THE TABLE

Column

1 The AFTN/AMHS Centres/Stations of each State are listed alphabetically. Each circuit appears twice in the table. The categories of these facilities are as follows:
M - Main AFTN/AMHS COM Centre
T - Tributary AFTN COM Centre
S - AFTN Station

2 Category of circuit:
M - Main trunk circuit connecting Main AFTN communication centres.
P1 - IP circuit with MTA to MTA connection (P1 protocol)
T - Tributary circuit connecting Main AFTN communication centre and Tributary AFTN Communications Centre.
S - AFTN circuit connecting an AFTN Station to an AFTN Communication Centre.

3 Type of circuit provided:
LTT/a - Landline teletypewriter, analogue (e.g. cable, microwave)
LTT/d - Landline teletypewriter, digital (e.g. cable, microwave)
LDD/a - Landline data circuit, analogue (e.g. cable, microwave)
LDD/d - Landline data circuit, digital (e.g. cable, microwave)

SAT/a/d - Satellite link, with /a for analogue or /d for digital
MPLS – Terrestrial digital link

4 Circuit signalling speed in bits/s.

5 Circuit protocols

6 Data transfer code (syntax):
ITA-2 - International Telegraph Alphabet No. 2 (5-unit Baudot code).
IA-5 - International Alphabet No. 5 (ICAO 7-unit code).
CBI - Code and Byte Independency (ATN compliant).

7 Remarks
AFISNET – AFI Satellite Network
CAMSAT – Central American VSAT Digital Network
MEVA - Central Caribbean MEVA Satellite Digital Network
E/CAR - Eastern Caribbean Digital Network
REDDIG - SAM Digital Network
MEVA REDDIG - MEVAIII/REDDIGII interconnection

TABLE CNS II-1 – AERONAUTICAL MESSAGE SERVICE (AFTN/AMHS) PLAN								
State	COM Center	Adjacent COM Center	Category	Requirement				Remarks
				Type	Signaling Speed	Protocol	Code	
Anguilla	Anguilla-	Piarco						
Antigua and Barbuda	Antigua-	Piarco						
Aruba (Kingdom of Netherlands)	Aruba-	United States (Atlanta)						
Bahamas	Nassau-	United States (Atlanta)						
Barbados	Barbados-	Piarco						
Belize	Belize-	Centro America						
Bermuda (United Kingdom)	Bermuda-	United States (Atlanta)						
Cayman Is. (United Kingdom)	Cayman-	United States (Atlanta)						
Costa Rica	San Jose-	Centro America						
Cuba	Habana-	United States (Atlanta)						
Curaçao (Kingdom of Netherlands)	Curaçao-	United States (Atlanta)						
Dominica	Dominica-	United States (Atlanta)						
El Salvador	San Salvador-	Centro America						
French Antilles (Guadeloupe)	Pointe-a-Pitre-	Piarco						
French Antilles (Martinique)	Fort-de-France-	Piarco						
Grenada	Grenada-	Piarco						
Guatemala	Guatemala-	Centro America						
Haiti	Port-au-Prince-	United States (Atlanta)						
Honduras	Centro America-M	Belize						
Honduras	Centro America-M	Guatemala						
Honduras	Centro America-M	Managua						
Honduras	Centro America-M	Mexico						
Honduras	Centro America-M	San Jose						
Honduras	Centro America-M	San Pedro Sula						
Honduras	Centro America-M	San Salvador						
Honduras	Centro America-M	United States (Atlanta)	P1	SAT/d and MPLS	64 k	TCP/IP	IA-5	MEVA REDDIG
Jamaica	Kingston-M	United States (Atlanta)						
Mexico	Mexico-M	Centro America						
Mexico	Mexico-M	United States (Atlanta)						
Montserrat (United Kingdom)	Montserrat-	Piarco						